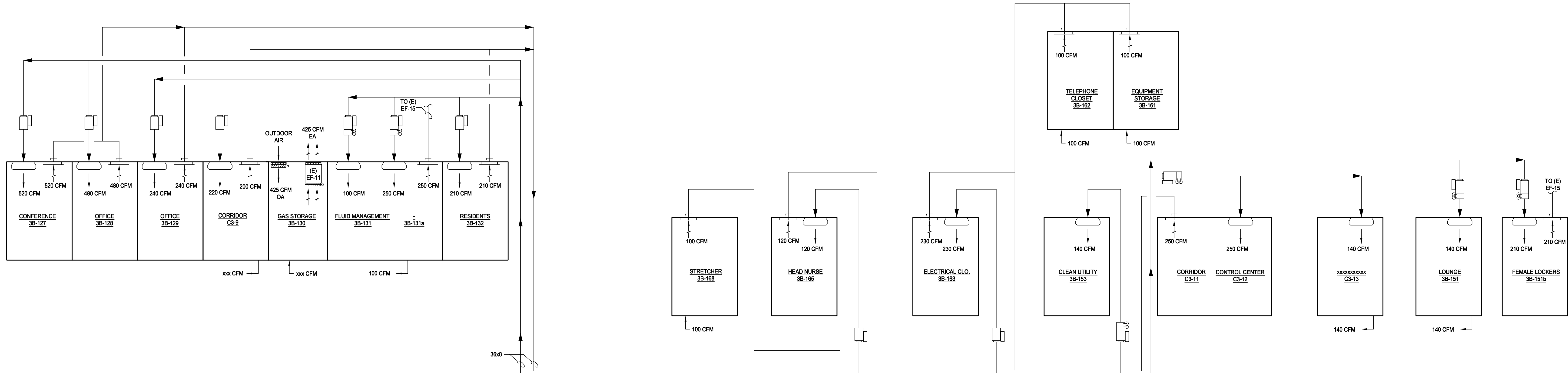


GENERAL NOTES:

- EXISTING 1S-AC-9 / 1S-RF-9 WILL BE REVISED AND REUSED TO SERVE THE NEW SURGICAL ADMIN/SUPPORT AND CIRCULATION AREAS OF THE RENOVATION. DEMOLITION WORK TO OCCUR DURING AND ACROSS PHASE 1A THRU PHASE 4A. AIRFLOW DIAGRAM REPRESENTS THE BASIC UNDERSTANDING OF EXISTING HVAC SYSTEM AIR DISTRIBUTION AND THE AS-BUILT/RECORD DESIGN DRAWING CAPACITY/AIRFLOW QUANTITIES. SINGLE LINE DIAGRAM DOES NOT INCLUDE ALL SYSTEM DETAILS AND DO NOT REPRESENT EXACT ORDER OR PLACEMENT OF TERMINAL EQUIPMENT WITHIN THE DUCTWORK SYSTEMS. REFER TO DEMOLITION PLANS FOR ADDITIONAL INFORMATION, REQUIREMENTS AND THE EXTENT OF REVISIONS TO BE MADE TO EACH SYSTEM INDICATED.
- PROVIDE PRE-CONSTRUCTION AND PHASED TESTING AND BALANCING SUPPORT AND REPORTS TO MAINTAIN AND DOCUMENT AIRFLOW RATES TO ALL AREAS (WITHIN AND OUTSIDE OF THE ACTIVE PROJECT PHASE). AIRFLOW RATES AND PRESSURE / TRANSFER AIR OFFSETS MUST BE MAINTAINED. AREAS OF DEMOLITION ARE TO BE SET UP AND MAINTAINED AS NEGATIVE AT ALL TIMES. AREAS ADJACENT TO THE ACTIVE PHASE MUST REMAIN STABLE / IN THEIR AS-FOUND CONDITIONS PRIOR TO ANY CONSTRUCTION/DEMOLITION EFFORTS. COORDINATE EACH PHASE OF WORK WITH THE OWNER AND DESIGN TEAM.

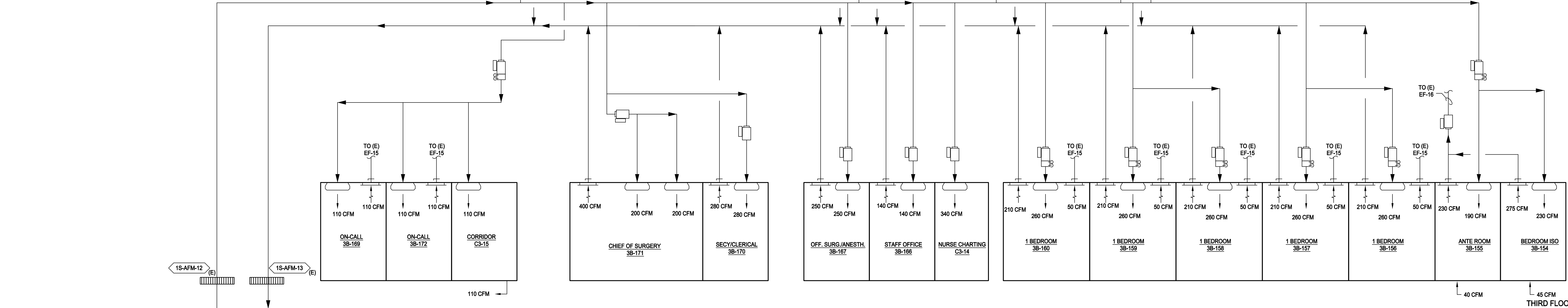
FOURTH FLOOR

FOURTH FLOOR



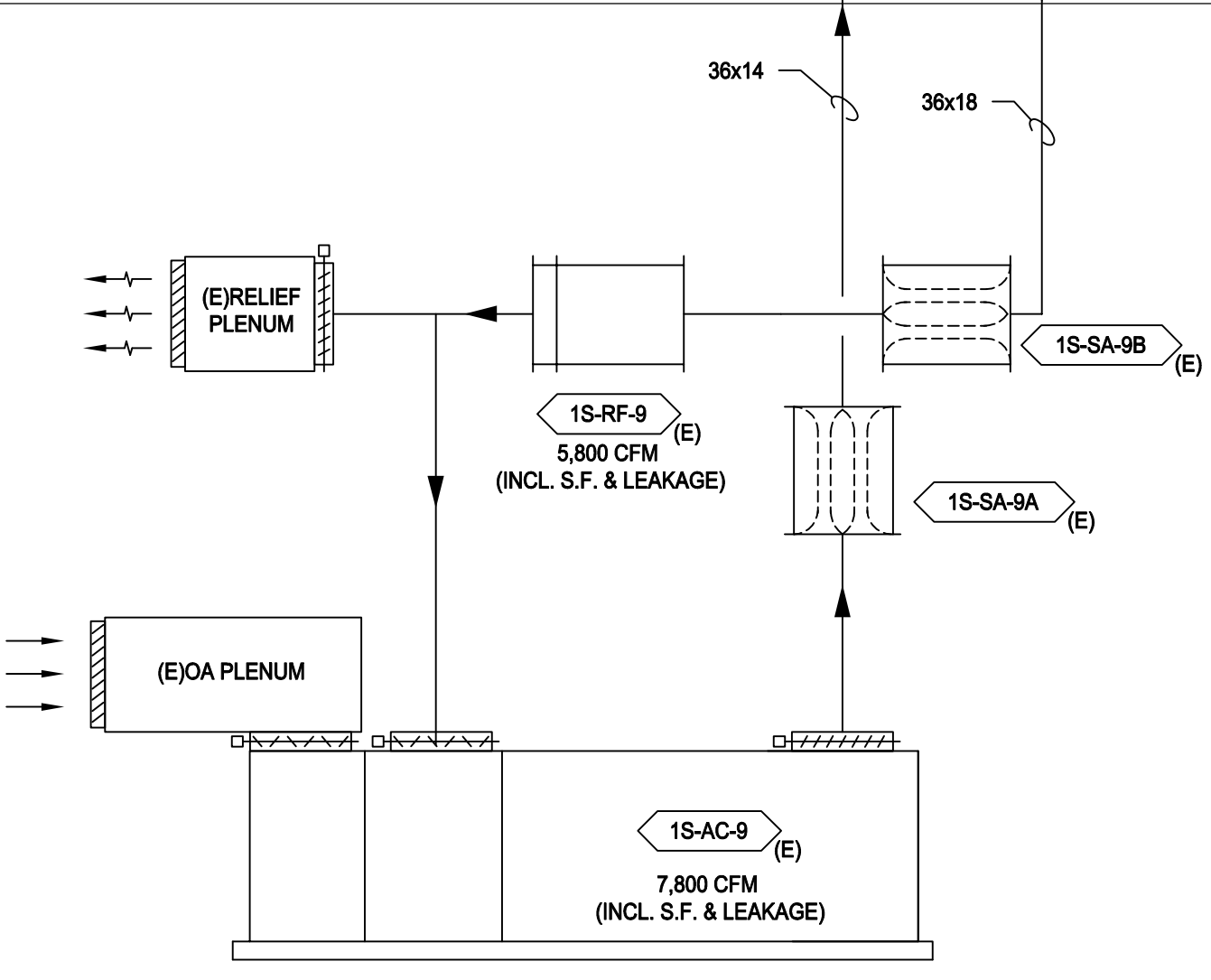
THIRD FLOOR

THIRD FLOOR



SECOND FLOOR

SECOND FLOOR



100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED

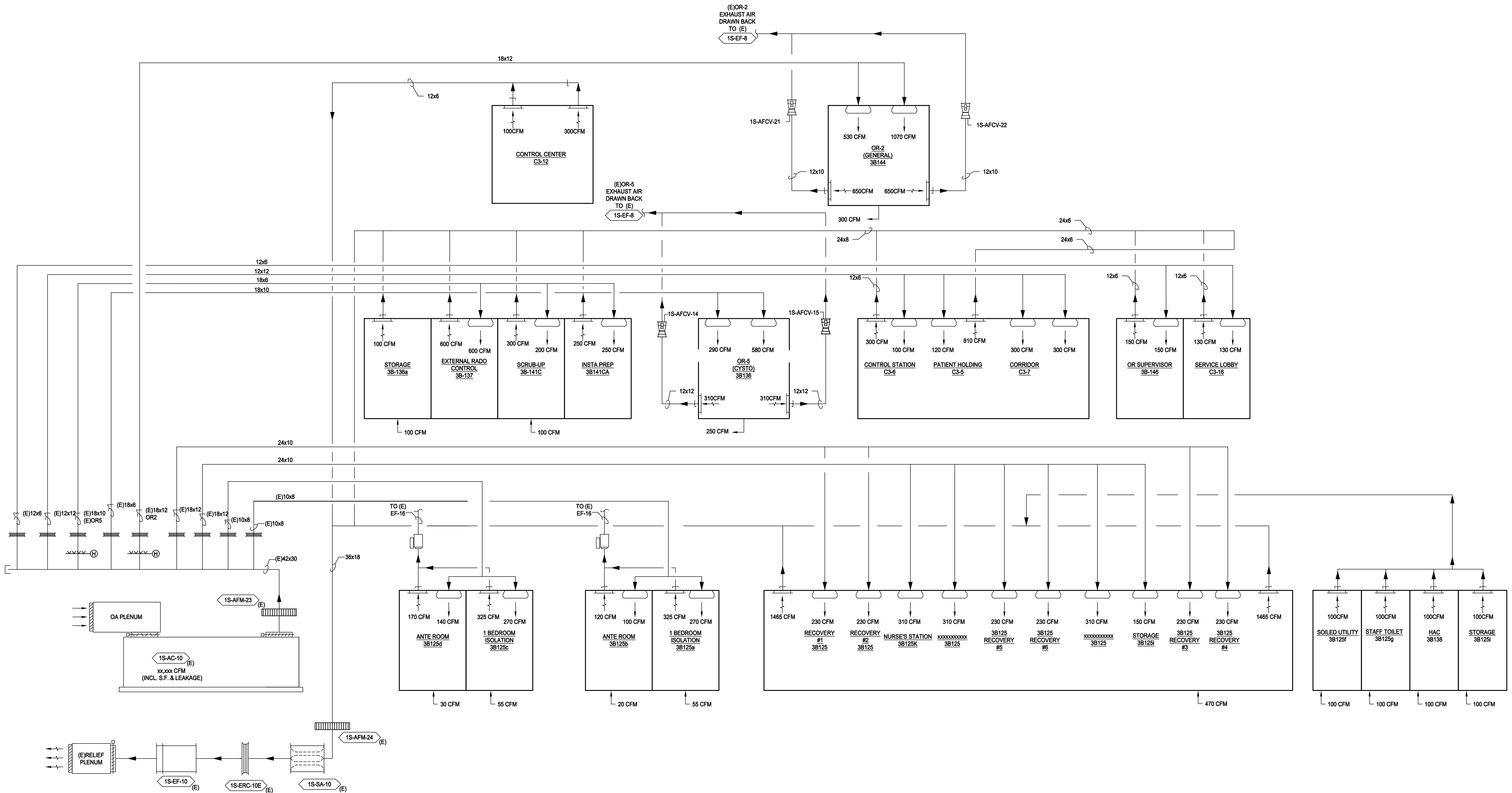
CONSULTANTS:			ARCHITECT / ENGINEERS:			Drawing Title MECHANICAL - EXISTING AC-9 AND RF-9 AIRFLOW DIAGRAM		Project Title RENOVATE SURGICAL SERVICE & UPGRADE OPERATING ROOMS		Project Number 581-13-101		Office of Construction and Facilities Management	
						Approved: Medical Center Director		Location HUNTINGTON, WV		Building Number 1S		Department of Veterans Affairs	
								Date 10.31.2014		Checked MPP		Drawn JLR	
										Drawing Number M7.02		Dwg. 080 of 178	
NO. DESCRIPTION DATE			COMMONWEALTH OF REGISTERED PROFESSIONAL THOMAS L. CHAPMAN ENGINEER NO. PE04043R FACILITY DESIGN M.E.P. & Structural Engineering A Service Disabled Veteran Owned Small Business 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856)420-4000 FAX: (856)420-5002			PF&A PF&A DESIGN ARCHITECTURE, PLANNING, INTERIORS World Trade Center 101 West Main Street, Suite 7000 Norfolk, VA 23610 Phone: 757-471-6837 Fax: 757-471-6205 www.pfa-architect.com							

GENERAL NOTES:

- EXISTING 1S-AC-10 / 1S-EF-10 WILL BE REVISED AND REUSED TO SERVE THE NEW SURGICAL PREPARATION/ PRE-OP/ISOLATION AREAS OF THE RENOVATION. DEMOLITION WORK TO OCCUR DURING PHASE 4A. AIRFLOW DIAGRAM REPRESENT THE BASIC UNDERSTANDING OF EXISTING HVAC SYSTEM AIR DISTRIBUTION AND THE AS-BUILT RECORD DESIGN DRAWING CAPACITY/ AIRFLOW QUANTITIES. SINGLE LINE DIAGRAMS DO NOT INCLUDE ALL SYSTEM DETAILS AND DO NOT REPRESENT EXACT ORDER OR PLACEMENT OF TERMINAL EQUIPMENT WITHIN THE DUCTWORK SYSTEMS. REFER TO DEMOLITION PLANS FOR ADDITIONAL INFORMATION, REQUIREMENTS AND THE EXTENT OF REVISIONS TO BE MADE TO EACH SYSTEM INDICATED.
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FOURTH FLOOR

FOURTH FLOOR



THIRD FLOOR

THIRD FLOOR

100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED

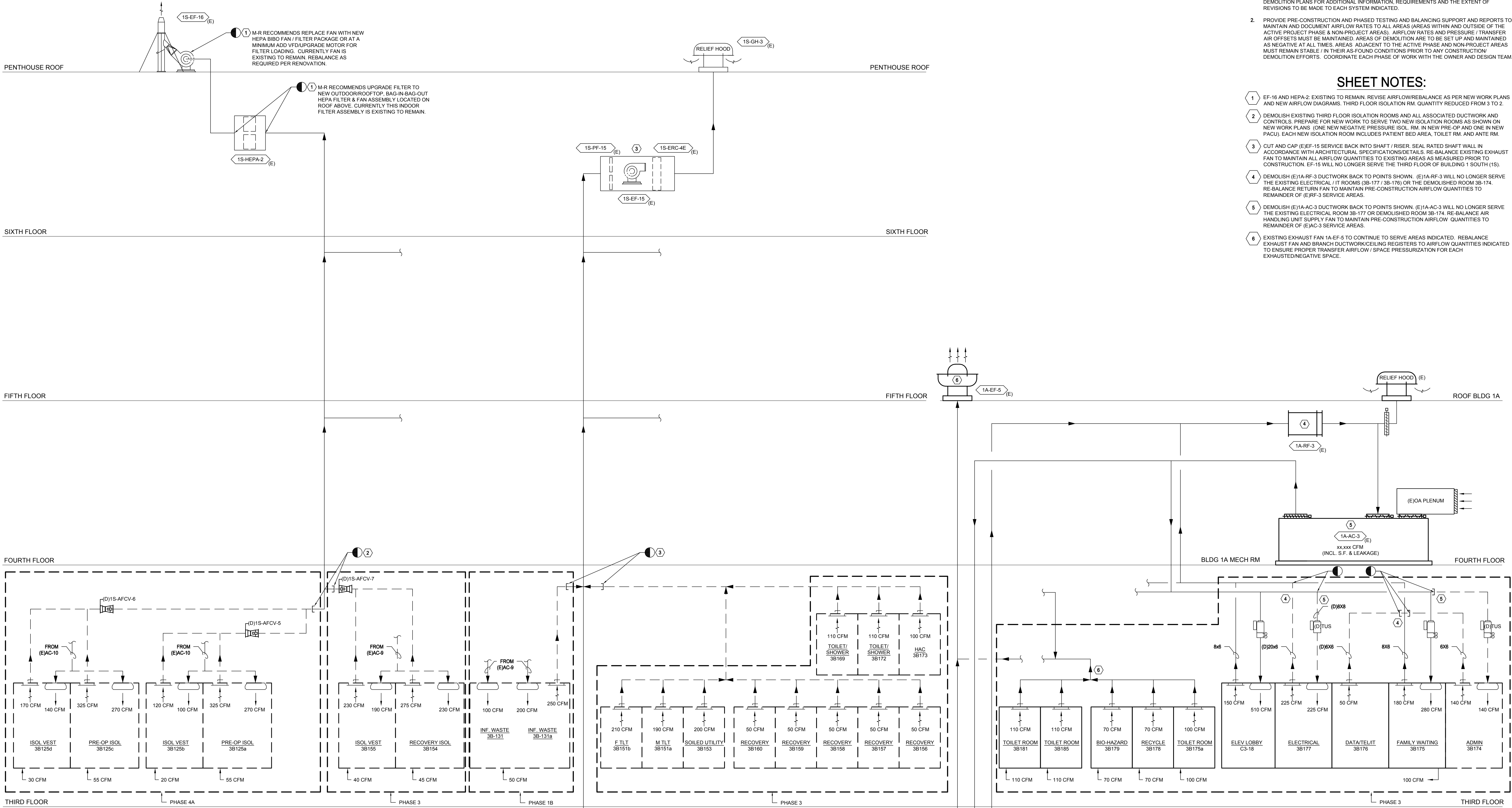
CONSULTANTS:			ARCHITECT / ENGINEERS:			Drawing Title MECHANICAL - EXISTING AC-10 AND EF-10 AIRFLOW DIAGRAM		Project Title RENOVATE SURGICAL SERVICE & UPGRADE OPERATING ROOMS		Project Number 581-13-101		Office of Construction and Facilities Management Department of Veterans Affairs	
						Approved: Medical Center Director		Location HUNTINGTON, WV		Building Number 1S			
						Date 10.31.2014		Checked MP		Drawn JLR			
NO. DESCRIPTION DATE			COMMONWEALTH OF REGISTERED PROFESSIONAL THOMAS L. CHAPMAN ENGINEER NO. PE044043R FACILITY ENGINEER			PF&A DESIGN ARCHITECTURE, PLANNING, INTERIORS World Trade Center 101 West Main Street, Suite 7000 Norfolk, VA 23510 Phone: 757-471-6537 Fax: 757-471-6538 www.pfa-architect.com		Dwg. 081 of 178					

GENERAL NOTES:

- SOME EXISTING EQUIPMENT WILL BE REVISED/REUSED TO SERVE SPECIFIC AREAS OF THE RENOVATION. DEMOLITION WORK TO OCCUR DURING AND ACROSS PHASES 1B THROUGH 4A AS SHOWN. AIRFLOW DIAGRAM REPRESENTS THE BASIC UNDERSTANDING OF EXISTING HVAC SYSTEM AIR DISTRIBUTION AND THE AS-BUILT/RECORD DESIGN DRAWING CAPACITY/AIRFLOW QUANTITIES. SINGLE LINE DIAGRAM DOES NOT INCLUDE ALL SYSTEM DETAILS AND DOES NOT REPRESENT EXACT ORDER OR PLACEMENT OF TERMINAL EQUIPMENT WITHIN THE DUCTWORK SYSTEMS. REFER TO DEMOLITION PLANS FOR ADDITIONAL INFORMATION, REQUIREMENTS AND THE EXTENT OF REVISIONS TO BE MADE TO EACH SYSTEM INDICATED.
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SHEET NOTES:

- EF-16 AND HEPA-2: EXISTING TO REMAIN. REVISE AIRFLOW/REBALANCE AS PER NEW WORK PLANS AND NEW AIRFLOW DIAGRAMS. THIRD FLOOR ISOLATION RM. QUANTITY REDUCED FROM 3 TO 2.
- DEMOLISH EXISTING THIRD FLOOR ISOLATION ROOMS AND ALL ASSOCIATED DUCTWORK AND CONTROLS. PREPARE FOR NEW WORK TO SERVE TWO NEW ISOLATION ROOMS AS SHOWN ON NEW WORK PLANS (ONE NEW NEGATIVE PRESSURE ISOL. RM. IN NEW PRE-OP AND ONE IN NEW PACU). EACH NEW ISOLATION ROOM INCLUDES PATIENT BED AREA, TOILET RM. AND ANTE RM.
- CUT AND CAP (E)EF-15 SERVICE BACK INTO SHAFT / RISER. SEAL RATED SHAFT WALL IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS/DETAILS. RE-BALANCE EXISTING EXHAUST FAN TO MAINTAIN ALL AIRFLOW QUANTITIES TO EXISTING AREAS AS MEASURED PRIOR TO CONSTRUCTION. EF-15 WILL NO LONGER SERVE THE THIRD FLOOR OF BUILDING 1 SOUTH (1S).
- DEMOLISH (E)1A-RF-3 DUCTWORK BACK TO POINTS SHOWN. (E)1A-RF-3 WILL NO LONGER SERVE THE EXISTING ELECTRICAL / IT ROOMS (3B-177 / 3B-178) OR THE DEMOLISHED ROOM 3B-174. RE-BALANCE RETURN FAN TO MAINTAIN PRE-CONSTRUCTION AIRFLOW QUANTITIES TO REMAINDER OF (E)RF-3 SERVICE AREAS.
- DEMOLISH (E)1A-AC-3 DUCTWORK BACK TO POINTS SHOWN. (E)1A-AC-3 WILL NO LONGER SERVE THE EXISTING ELECTRICAL ROOM 3B-177 OR DEMOLISHED ROOM 3B-174. RE-BALANCE AIR HANDLING UNIT SUPPLY FAN TO MAINTAIN PRE-CONSTRUCTION AIRFLOW QUANTITIES TO REMAINDER OF (E)AC-3 SERVICE AREAS.
- EXISTING EXHAUST FAN 1A-EF-5 TO CONTINUE TO SERVE AREAS INDICATED. RE-BALANCE EXHAUST FAN AND BRANCH DUCTWORK/CEILING REGISTERS TO AIRFLOW QUANTITIES INDICATED TO ENSURE PROPER TRANSFER AIRFLOW / SPACE PRESSURIZATION FOR EACH EXHAUSTED/NEGATIVE SPACE.



ISOLATION ROOM EXHAUST

GENERAL / TOILET EXHAUST

BLDG 1A HVAC

100% CONSTRUCTION DOCUMENTS
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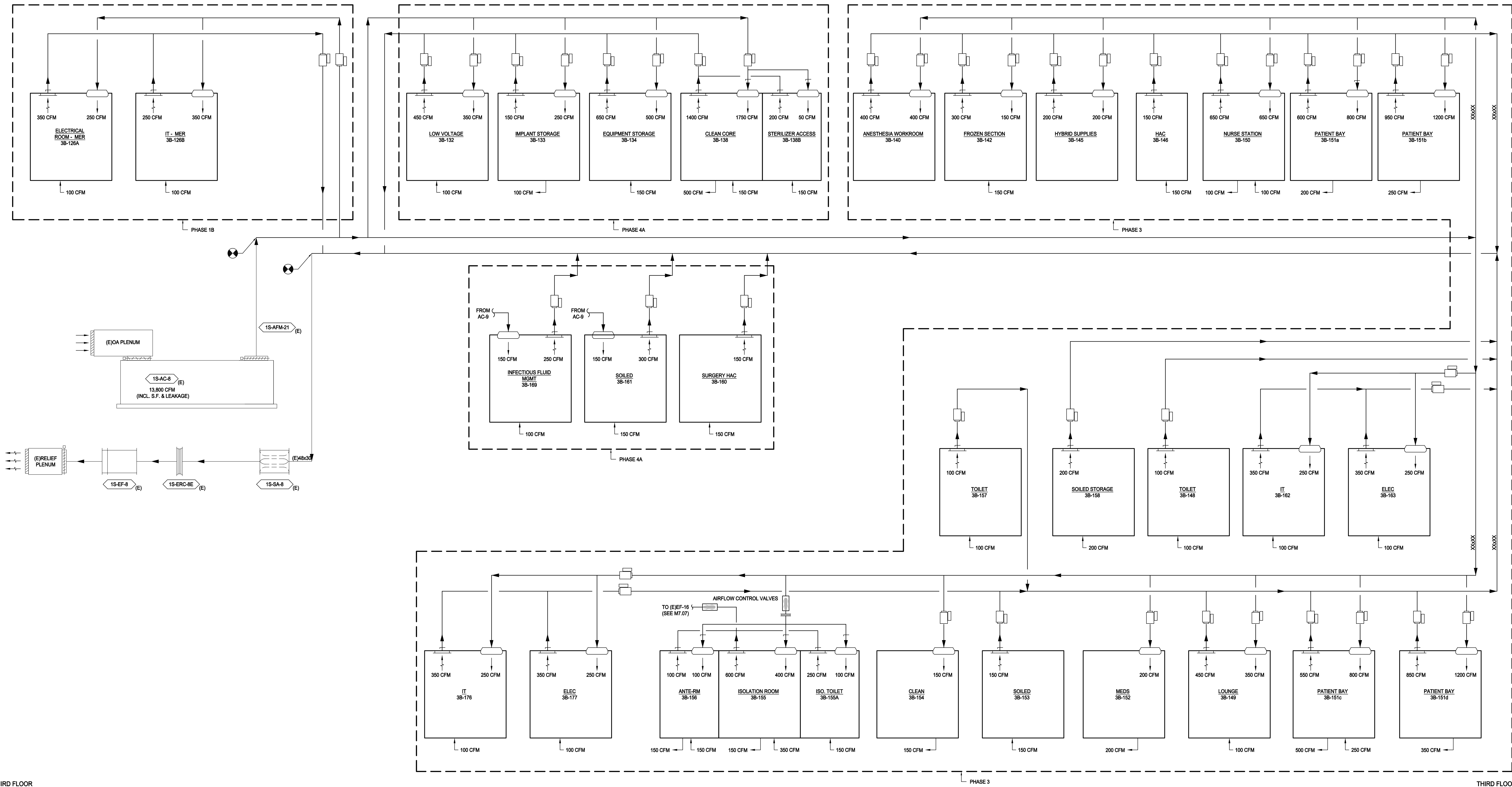
			CONSULTANTS:			ARCHITECT / ENGINEERS:			Drawing Title MECHANICAL – EXISTING MISCELLANEOUS AIRFLOW DIAGRAMS			Project Title RENOVATE SURGICAL SERVICE & UPGRADE OPERATING ROOMS			Project Number 581-13-101			Office of Construction and Facilities Management Department of Veterans Affairs					
									Approved: Medical Center Director			Location HUNTINGTON, WV			Building Number 1S								
NO. DESCRIPTION DATE			COMMONWEALTH OF PENNSYLVANIA THOMAS L. CHAPMAN ENGINEER NO. PE044543R PE044543R PE044543R			Miller-Remick LLC M.E.P. & Structural Engineering A Service Disabled Veteran Owned Small Business 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856)420-4000 FAX: (856)420-5002			PF&A PF&A DESIGN ARCHITECTURE, PLANNING, INTERIORS World Trade Center 101 West Main Street, Suite 700 Norfolk, VA 23510 Phone: 757-471-0537 Fax: 757-471-4200 www.pfa-architect.com			Drawing Number M7.04 Dwg. 082 of 178											
			[Signature]			[Seal]						Date 10.31.2014			Checked MPP						Drawn JLR		

GENERAL NOTES:

- EXISTING AC-8/EF-8 WILL SERVE NEW SURGICAL RECOVERY/ISOLATION AREAS OF THE RENOVATION (EF-16/HEPA-2 PROVIDES EXHAUST FOR ISOLATION ROOM-SEE DWG. M7.07). NEW WORK TO OCCUR DURING AND ACROSS PHASES 1B THRU 4A AS SHOWN. AIRFLOW DIAGRAM REPRESENT THE BASIC INTENT FOR HVAC SYSTEM AIR DISTRIBUTION AND THE REQUIRED CAPACITY/AIRFLOW QUANTITIES. SINGLE LINE DIAGRAMS DO NOT INCLUDE ALL SYSTEM DETAILS AND DO NOT REPRESENT EXACT ORDER OR PLACEMENT OF TERMINAL EQUIPMENT WITHIN THE DUCTWORK SYSTEMS. REFER TO NEW WORK PLANS, DETAILS AND CONTROLS DIAGRAMS FOR ADDITIONAL INFORMATION, REQUIREMENTS AND THE EXTENT OF NEW AC-8/EF-8 SERVICE.
- PROVIDE PRE-CONSTRUCTION AND PHASED TESTING AND BALANCING SUPPORT AND REPORTS TO MAINTAIN AND DOCUMENT AIRFLOW RATES TO ALL PROJECT AREAS. AIRFLOW RATES AND PRESSURE / TRANSFER AIR OFFSETS MUST BE MAINTAINED. REFER ALSO TO DRAWING M7.00 AND THE ASSOCIATED HVAC COMPONENT AND SINGLE DUCT AIR TERMINAL UNIT SCHEDULES FOR ADDITIONAL INFORMATION. COORDINATE EACH PHASE OF WORK WITH THE OWNER AND DESIGN TEAM.

FOURTH FLOOR

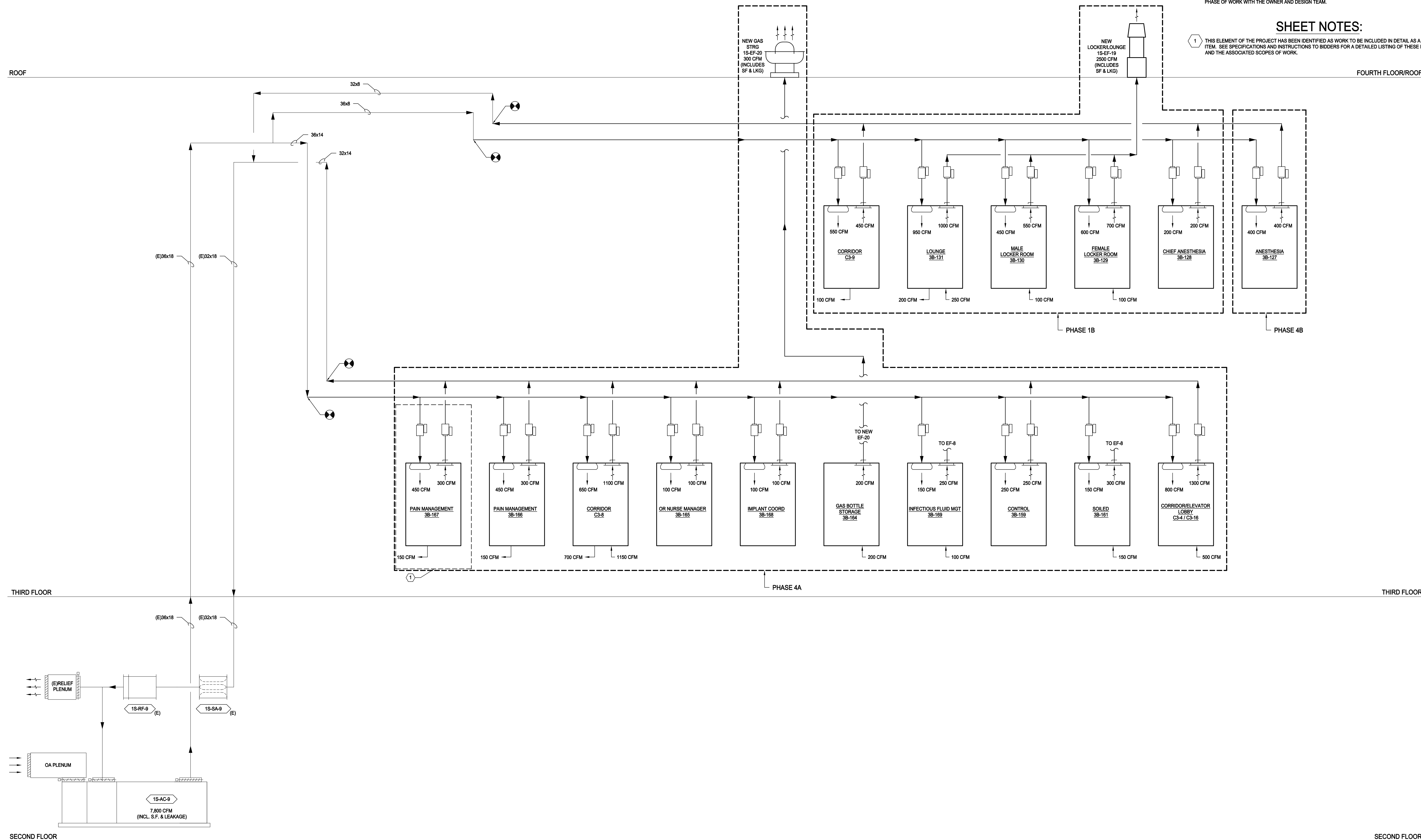
FOURTH FLOOR



100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED

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1 THIS ELEMENT OF THE PROJECT HAS BEEN IDENTIFIED AS WORK TO BE INCLUDED IN DETAIL AS A BID ITEM. SEE SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS FOR A DETAILED LISTING OF THESE ITEMS AND THE ASSOCIATED SCOPES OF WORK.



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Office of
Construction
and Facilities
Management

**Department of
Veterans Affairs**

CONSULTANTS:

COMMONWEALTH OF
REGISTERED
PROFESSIONAL
THOMAS L. CHAPMAN
ENGINEER
NO.
PE044043R
PENNSYLVANIA
Thomas L. Chapman

 <p>Miller-Remick LLC W.E. & Structural Engineering A Service Disabled Veteran Owned Small Business</p> <p>15110 KINGS HIGHWAY SOUTH PERRY HILL, NEW JERSEY 08054 PHONE: (856)420-4000 FAX: (856)429-5002</p>		 <p>PF&A DESIGN ARCHITECTURE, PLANNING, INTERIORS World Trade Center 151 Main Street, Suite 7000 Norfolk, VA 23510</p> <p>Phone: 757-471-0537 Fax: 757-471-4255 www.pfa-architect.com</p>
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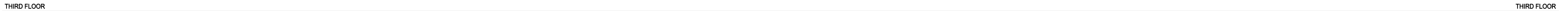
Approved: Medical Center Director

Location	HUNTINGTON, WV
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	Drawing Number

M7.07

1 THIS ELEMENT OF THE PROJECT HAS BEEN IDENTIFIED AS WORK TO BE INCLUDED IN DETAIL AS A BID ITEM. SEE SPECIFICATIONS AND INSTRUCTIONS TO BIDDERS FOR A DETAILED LISTING OF THESE ITEMS AND THE ASSOCIATED SCOPES OF WORK.



**Department of
Veterans Affairs**

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CONTROL POINT DESCRIPTOR LEGEND

	ATC CONTRACTOR PROVIDE DDC POINT AND HARDWARE		FILTER DIFFERENTIAL PRESSURE SWITCH		OUTSIDE AIR WET BULB TEMPERATURE SENSOR
	CONTROL DEVICE PROVIDED BY ELECTRICAL OR PLUMBING CONTRACTOR BUT INTERFACED TO DDC SYSTEM BY ATC CONTRACTOR		FAN ISOLATION DAMPER (NON UL LISTED)		PRIMARY CHILLED WATER RETURN TEMPERATURE SENSOR
	ATC CONTRACTOR INTERFACE TO EQUIPMENT MANUFACTURER'S HARDWARE		FLOW METER/TRANSMITTER		PRIMARY CHILLED WATER SUPPLY TEMPERATURE SENSOR
	AIR HANDLING UNIT DISCHARGE AIR TEMPERATURE SENSOR		FREEZESTAT		PREHEAT CONTROL VALVE
	AIR HANDLING UNIT HEAT RECOVERY COIL LEAVING AIR TEMPERATURE SENSOR		HUMIDITY SENSOR		RETURN AIR DAMPER
	AIR HANDLING UNIT HEAT RECOVERY COIL VALVE		HOOD ALARM		RETURN AIR TEMPERATURE SENSOR
	ALARM		HOOD SASH SWITCH		REHEAT CONTROL VALVE
	AIR VOLUME STATION		HIGH HUMIDITY LIMIT SENSOR		RUN INDICATION
	BASEBOARD CONTROL VALVE		HUMIDIFIER ISOLATION VALVE		RETURN ISOLATION DAMPER
	BYPASS VALVE		HIGH/LOW SETTING		ROOM TEMPERATURE SENSOR
	COOLING COIL LEAVING AIR TEMPERATURE SENSOR		HIGH/LOW HUMIDITY LIMIT SENSOR		ROOM OCCUPANCY SENSOR
	CHARCOAL FILTER DIFFERENTIAL PRESSURE		HEAT RECOVERY COIL ENTERING AIR TEMPERATURE SENSOR		SECONDARY CHILLED WATER RETURN TEMPERATURE SENSOR
	SWITCH CHILLED WATER COIL LEAVING AIR TEMPERATURE SENSOR		HEAT RECOVERY COIL LEAVING AIR TEMPERATURE SENSOR		SECONDARY CHILLED WATER SUPPLY TEMPERATURE SENSOR
	CHILLED WATER RETURN TEMPERATURE SENSOR		HEAT RECOVERY COIL TEMPERATURE SENSOR		SUPPLY AIR DAMPER
	CHILLED WATER SUPPLY TEMPERATURE SENSOR		HEAT RECOVERY COIL VALVE		START/STOP
	CURRENT TRANSFORMER RELAY		HEAT RECOVERY LOOP 3-WAY VALVE		STEAM COIL LEAVING AIR TEMPERATURE SENSOR
	CHILLED WATER VALVE		HAND SWITCH		STEAM COIL VALVE
	DISCHARGE AIR TEMPERATURE SENSOR		HIGH STATIC PRESSURE SWITCH		SMOKE DETECTOR
	DISCHARGE AIR TEMPERATURE LIMITER		HUMIDITY VALVE		STATIC PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SENSOR		HOT WATER RETURN TEMPERATURE SENSOR		SUPPLY SMOKE ISOLATION DAMPER (UL LISTED)
	DIFFERENTIAL PRESSURE SWITCH		HOT WATER SUPPLY TEMPERATURE SENSOR		SUCTION STATIC PRESSURE SENSOR
	ROOM DIFFERENTIAL PRESSURE MONITOR		HOT WATER VALVE		START-STOP
	DISCHARGE STATIC PRESSURE SENSOR		INTAKE AIR TEMPERATURE SENSOR		TEMPERATURE SENSOR
	EXHAUST AIR VALVE		INTEGRAL FACE AND BYPASS DAMPER		TEMPERATURE CONTROL VALVE
	ENVIRONMENTAL CONTROL CENTER (BAS)		CURRENT TRANSDUCER		VARIABLE FREQUENCY DRIVE SPEED CONTROL
	EXHAUST HEAT RECOVERY COIL ENTERING AIR TEMPERATURE SENSOR		ISOLATION VALVE		VARIABLE FREQUENCY DRIVE SPEED OUTPUT
	EXHAUST HEAT RECOVERY COIL LEAVING AIR TEMPERATURE SENSOR		LEAVING AIR TEMPERATURE SENSOR		VIBRATION SWITCH
	EXHAUST HEAT RECOVERY COIL VALVE		LIGHT SWITCH INTERFACE		WATER FLOW SWITCH
	END SWITCH		LOW STATIC PRESSURE SWITCH		WALL SWITCH
	EXHAUST STATIC PRESSURE SENSOR		MAKEUP WATER VALVE		UNOCCUPIED MODE OVERRIDE PUSH BUTTON
	ELECTRIC UNIT HEATER		OUTSIDE AIR DAMPER		MULTI-TECHNOLOGY ROOM OCCUPANCY SENSOR
	FAULT ALARM		OUTSIDE AIR DRY BULB TEMPERATURE SENSOR		
			OUTSIDE AIR TEMPERATURE SENSOR		

CONTROL ABBREVIATIONS

ACD ACV AHU AHUDAT AHUHRCLAT AHUHRCV ALM ATC AVS AS BAS BCV BIBO BMS BV CCLAT CFDPS CHWCLAT CHWRT CHWST CHWV DAT DATL DDC DDCFP DP DPS DPV DSP DWI EAD ECC EHRCEAT EHRCLAT EHRCV ES ESP ET	AUTOMATIC CONTROL DAMPER AUTOMATIC CONTROL VALVE AIR HANDLING UNIT AIR HANDLING UNIT DISCHARGE AIR TEMPERATURE SENSOR AIR HANDLING UNIT HEAT RECOVERY COIL LEAVING AIR TEMPERATURE SENSOR AIR HANDLING UNIT HEAT RECOVERY COIL VALVE ALARM AUTOMATIC TEMPERATURE CONTROL AIR VOLUME STATION AIR SEPARATOR BUILDING AUTOMATION SYSTEM BASEBOARD CONTROL VALVE BAG-IN / BAG-OUT BUILDING MANAGEMENT SYSTEM (SYNONYMOUS WITH BAS) BYPASS VALVE COOLING COIL LEAVING AIR TEMPERATURE SENSOR CHARCOAL FILTER DIFFERENTIAL PRESSURE SWITCH CHILLED WATER COIL LEAVING AIR TEMPERATURE SENSOR CHILLED WATER RETURN TEMPERATURE SENSOR CHILLED WATER SUPPLY TEMPERATURE SENSOR CHILLED WATER VALVE DISCHARGE AIR TEMPERATURE SENSOR DISCHARGE AIR TEMPERATURE LIMITER DIRECT DIGITAL CONTROL DIRECT DIGITAL CONTROL FIELD PANEL DIFFERENTIAL PRESSURE SENSOR DIFFERENTIAL PRESSURE SWITCH DIFFERENTIAL PRESSURE BYPASS VALVE DISCHARGE STATIC PRESSURE SENSOR DOUBLE WIDTH DOUBLE INLET EXHAUST AIR DAMPER ENVIRONMENTAL CONTROL CENTER (BAS) EXHAUST HEAT RECOVERY COIL ENTERING AIR TEMPERATURE SENSOR EXHAUST HEAT RECOVERY COIL LEAVING AIR TEMPERATURE SENSOR EXHAUST HEAT RECOVERY COIL VALVE END SWITCH EXHAUST STATIC PRESSURE SENSOR EXPANSION TANK	FA FDPS FID FMT FZ GAPC GFP H HALM HHL HIV HLH HOA HRCEAT HRCLAT HRLT HRCV HRGP HRL3WV HS HSPS HSS HV HWST HWRT HWV IFBD IGT LAT LSPS LS NC NO MUWV	FAULT ALARM FILTER DIFFERENTIAL PRESSURE SWITCH FAN ISOLATION DAMPER FLOW METER/TRANSMITTER FREEZESTAT GENESIS AIR PHOTOCATALYSIS COMPOUND (COMMERCIAL GRADE) GLYCOL FILL PUMP HUMIDITY SENSOR HOOD ALARM HIGH HUMIDITY LIMIT SENSOR HUMIDIFIER ISOLATION VALVE HIGH/LOW HUMIDITY LIMIT SENSOR HAND-OFF-AUTOMATIC SWITCH HEAT RECOVERY COIL ENTERING AIR TEMPERATURE SENSOR HEAT RECOVERY COIL LEAVING AIR TEMPERATURE SENSOR HEAT RECOVERY LOOP TEMPERATURE SENSOR HEAT RECOVERY COIL VALVE HEAT RECOVERY GLYCOL PUMP HEAT RECOVERY LOOP 3-WAY VALVE HAND SWITCH HIGH STATIC PRESSURE SWITCH HOOD SASH SWITCH HUMIDITY VALVE HOT WATER SUPPLY TEMPERATURE SENSOR HOT WATER RETURN TEMPERATURE SENSOR HOT WATER VALVE INTEGRAL FACE & BYPASS DAMPER INLET GUIDE VANES LEAVING AIR TEMPERATURE SENSOR LOW STATIC PRESSURE SWITCH LIGHT SWITCH INTERFACE NORMALLY CLOSED NORMALLY OPEN MAKEUP WATER VALVE	OAD OADBT OAWBT OAT PCHWRT PCWST PCP RAD RAT RCV RH RI RID RT SAV SCHWST SCHWRT SCLAT SCV SD SDET SP START/STOP SSID SSP TCV VFDS VFDSO VS WC WFS WS	OUTSIDE AIR DAMPER OUTSIDE AIR DRY BULB TEMPERATURE SENSOR OUTSIDE AIR WET BULB TEMPERATURE SENSOR OUTSIDE AIR TEMPERATURE SENSOR PRIMARY CHILLED WATER RETURN TEMPERATURE SENSOR PRIMARY CHILLED WATER SUPPLY TEMPERATURE SENSOR POPULATED CATALYST PANEL (GAPC - PCP COMPOUND) RETURN AIR DAMPER RETURN AIR TEMPERATURE SENSOR REHEAT CONTROL VALVE RELATIVE HUMIDITY RUN INDICATOR RETURN ISOLATION DAMPER ROOM TEMPERATURE SENSOR SUPPLY AIR DAMPER SECONDARY CHILLED WATER SUPPLY TEMPERATURE SENSOR SECONDARY CHILLED WATER RETURN TEMPERATURE SENSOR STEAM COIL LEAVING AIR TEMPERATURE SENSOR STEAM COIL VALVE SMOKE DAMPER SMOKE DETECTOR STATIC PRESSURE SENSOR START/STOP SUPPLY SMOKE ISOLATION DAMPER SUCTION STATIC PRESSURE SENSOR TEMPERATURE SENSOR TEMPERATURE CONTROL VALVE VARIABLE FREQUENCY DRIVE SPEED VARIABLE FREQUENCY DRIVE SPEED OUTPUT VIBRATION SWITCH WATER COLUMN WATER FLOW SWITCH WALL SWITCH
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CONTROLS GENERAL NOTES

- THE SEQUENCES OF OPERATIONS OUTLINED SHALL BE PERFORMED BY NEW DIRECT DIGITAL CONTROL, STAND ALONE FIELD PANELS, (DDCFP) COMPATIBLE WITH THE EXISTING BUILDING MANAGEMENT SYSTEM (BMS). NAMES FOR ALL POINTS AND VARIABLES SHALL BE COORDINATED WITH THE VAMC PRIOR TO SHOP DRAWINGS AND PROGRAMMING.
- THE SEQUENCES OF OPERATIONS OUTLINED SHALL BE PERFORMED IN A STAGGERED/STAGED MANNER DURING INITIAL START-UP AND DURING THE TRANSITION FROM NORMAL TO EMERGENCY POWER OPERATION TO PREVENT OVERLOADING OF THE BUILDING/SITE ELECTRICAL POWER SYSTEMS. DESIGN INTENT IS FOR MECHANICAL EQUIPMENT TO OPERATE CONTINUOUSLY AND TO BE INDEXED/STARTED IN ORDER OF PRIORITY BEGINNING WITH BUILDING CENTRAL HYDRONIC SYSTEMS (REHEAT/HEATING HOT WATER HEAT EXCHANGERS, PUMPS AND CHILLED WATER CHILLERS, PUMPS, ETC.), CENTRAL STATION AIR HANDLING EQUIPMENT (INTERLOCKED SUPPLY, RETURN AND EXHAUST EQUIPMENT), AND ROOM/OCCUPIED SPACE AIR AND HYDRONIC TERMINAL EQUIPMENT. REFER TO CONTROLS DIAGRAMS FOR EACH SPECIFIC SYSTEM/COMPONENT FOR ADDITIONAL INFORMATION, SAFETIES, ETC. SUBMIT THE START/RESTART SEQUENCE WITHIN THE SPECIFIED BAS CONTROLS SUBMITTAL FOR REVIEW BY OWNER AND DESIGN ENGINEERS.
- EQUIPMENT SHALL BE CAPABLE OF MANUAL OPERATION THROUGH HOA SWITCHES IN STARTERS. THE POSITIONS OF ALL CONTROL VALVES CONTROLLED BY THE BMS SHALL BE CAPABLE OF MANUAL POSITIONING VIA THE CONTROL CENTER TERMINAL OR BY LAPTOP COMPUTER PLUGGED IN TO THE DIRECT DIGITAL CONTROL FIELD CONTROL PANEL.
- ALL VALVE AND DAMPER ACTUATORS SHALL BE ELECTRIC/ELECTRONIC.
- REFER TO MECHANICAL DIAGRAMS AND PLANS FOR SENSOR LOCATIONS. COORDINATE TO INSURE PROPER UPSTREAM AND DOWNSTREAM DIAMETERS FOR EACH SENSOR.
- PROVIDE CURRENT SENSOR ACROSS EACH FAN OR PUMP (WITH THE EXCEPTION OF VFD'S) TO PROVE STATUS AT BMS. SENSORS SHALL BE CAPABLE OF DIFFERENTIATING BETWEEN NORMAL OPERATION AND FREE WHEELING (I.E. FAN BELT BREAKAGE).
- BMS CONTROLLERS AND ALL OTHER CONTROL DEVICES AND SENSORS THAT REQUIRE POWER SHALL BE POWERED FROM EMERGENCY POWER PANEL.
- WHEN SYSTEMS ARE OFF, ALL VALVES AND DAMPERS SHALL GO TO THEIR FAIL-SAFE POSITIONS. FAIL-SAFE POSITIONS ARE POSITIONS THAT DEVICES WILL GO TO WHEN DE-ENERGIZED: NO = NORMALLY OPEN, NC = NORMALLY CLOSED.
- ALL SETPOINTS AND TIME DELAYS MENTIONED AS PART OF THIS SYSTEM SHALL BE ADJUSTABLE AT THE BMS FRONT END BY AN OPERATOR WITHOUT ANY HARDWARE OR SOFTWARE REVISIONS.
- ALL DAMPERS SHALL HAVE END SWITCHES (ES). EACH END SWITCH SHALL PROVE DAMPER OPEN AND CLOSED. WHEN COMMANDED TO OPEN OR CLOSE, AFTER 30 SECONDS (ADJ.), THE END SWITCH DOES NOT SWITCH, THE CONTROL SYSTEM SHALL SEND AN ALARM TO THE BMS FRONT END.

100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED

CONSULTANTS:			ARCHITECT / ENGINEERS:			Drawing Title MECHANICAL CONTROLS NOTES AND LEGENDS		Project Title RENOVATE SURGICAL SERVICE & UPGRADE OPERATING ROOMS		Project Number 581-13-101		Office of Construction and Facilities Management Department of Veterans Affairs			
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